LITERATURE CITED

SCHULTES, R. E. 1947. The Use of Formaldehyde in Plant Collecting, Rhodora **49:** 54–60.

FOSBERG, F. R. 1947. Formaldehyde in Plant Collecting. Science **106:** 250–251.

LAWRENCE, G. H. M. 1951. Taxonomy of Vascular Plants. p. 240–241. Macmillan, N. Y.

NOTES ON SOME JAMAICAN EUGENIAS

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THE CLASSIFICATION of Jamaican rodwoods presents many unsolved problems. Volume 5 of "Flora of Jamaica" (1926) lists 14 species of *Calyptranthes* and 37 indigenous species of *Eugenia*. Many of these are still very poorly known, and at the same time new, undescribed species are occasionally being found. The identification of specimens is made more difficult by the fact that the key in "Flora of Jamaica" is not dichotomous. Aside from the mere troublesome mechanics of identification with a polychotomous key, one also begins to wonder if some of the taxa (especially those based on few or but a single collection) represent real populations. In some cases further collecting will perhaps show that certain taxa are not specifically distinct, while others will have their distinctness clarified by additional data.

One example of clarification involves two entities occurring in the northern part of the Parish of Clarendon and adjacent areas. These are *Eugenia confusa* and *Eugenia clarendonensis*.

Eugenia confusa is widely distributed in the West Indies and also occurs in southern Florida. *E. clarendonensis* has hitherto been known from a single locality called Peckham Woods, in northern Clarendon, Jamaica. The former species, which also occurs in localities adjacent to Peckham Woods, is usually distinguished by its larger, more narrowly acuminate leaves and "racemose-umbelliform" inflorescence. *E. clarendonensis*, on the other hand, is supposed to have strictly umbelliform axillary flower-clusters. In most other details these two taxa are suspiciously similar, as shown by the following table:

	EUGENIA CONFUSA	EUGENIA CLARENDONENSIS
Plant form	Shrub or small tree	Shrub
Indument	Glabrous	Glabrous
Leaves	4–6.5 cm. long	2.5–4 cm. long
	long-acuminate or sometimes acute or obtuse	obtuse
Midrib	Impressed	Impressed
Glandular dots	Numerous	Numerous
Upper surface	Shining	Shining
Texture	Leathery	Leathery
Petioles	4–8 mm.	3–6 mm.
Inflorescence	"Racemose-umbelliform"	Umbelliform
Flowers	Usually 3–7	1–4 (–8)
Pedicels	8–16 mm. long	10–17 mm. long
Sepals	1.5–2 mm.	1.5–2.8 mm.
Petals	"Twice as long as sepals"	4 mm. long

Eugenia confusa has subglobose fruit 5–6 mm. in diameter, but the fruits of *E. clarendonensis* have never been found at the type locality. It is clear that in the absence of differentiating fruit characters, a breakdown in the distinction based on the leaves and type of inflorescence would probably render the maintenance of *E. clarendonensis* as a species untenable.

Recently, exploration of the Mason River Savanna area of northern Clarendon (about 10 miles east of Peckham Woods at about the same elevation) has revealed a population which appears to combine the leaf-characters of *E. clarendonensis* with the inflorescence-structure of *E. confusa*. However, the fruits (many observed) are obliquely ellipsoidal and clearly distinct from the subglobose ones of *E. confusa*. It is here suggested that this population (collected as *Proctor 16479*) represents a form of *E. clarendonensis* transitional in inflorescence towards *E. confusa*, and that the shape of the fruit in this case affords a more stable basis of distinction between the two taxa than the presence or absence of a short rachis to the inflorescence. The latter character, in fact, may often be of very little significance, though it is a major key-character in "Flora of Jamaica."

In reviewing the meagre available material of *E. clarendonensis* it was necessary to consider a specimen, labelled as this species, collected in the Santa Cruz Mountains, Parish of St. Elizabeth. It was soon obvious that the material could not be equated with any other known Jamaican species, being distinguished from all those with umbelliform inflorescences by its much larger, more

numerous flowers. It is also unlike any species seen from other West Indian islands. It is therefore here proposed as new.

Eugenia perratoni Proctor, sp. nov.

Arbuscula glabra; folia elliptica vel ovato-elliptica, 4–5 cm. longa (petiolis includentibus 3–5 mm.), 2–2.5 cm. lata, apice obtusa vel rotundata subacuminata, coriacea, venis utrinque prominulis, infra cum punctis parvulis obscuris. Inflorescentia terminalis, sessilis et umbelliformis; flores 7–15, pedicellis subcrassis 7–17 mm. longis, bracteolis ovatis, circa 1 mm. longis; calycis tubus 3 mm. longus, 5-lobatus, lobis (sepalis) rotundatis, inaequalibus, 3–5 mm. longis, cum punctis glandulosis numerosis; petala 5 mm. longa, cum punctis glandulosis numerosis. Fruges invisae.

A glabrous shrub; leaves elliptic or ovate-elliptic, 4–5 cm. long (including petioles of 3–5 mm.), mostly 2–2.5 cm. broad, the apex obtuse or very bluntly acuminate, the base broadly cuneate, coriaceous, the veins prominulous on both sides and the margins thickened beneath, very obscurely gland-dotted beneath with the dots faintly pellucid. Inflorescence a sessile terminal umbel of 7–15 flowers, the stout pedicels 7–17 mm. long; bracteoles ovate, about 1 mm. long; calyx usually 5-parted, the tube about 3 mm. long and the lobes (sepals) unequal, roundish, 3–5 mm. long, all parts densely glandular-punctate; petals 5 mm. long, of firm texture and densely glandular punctate. Fruit not seen.

TYPE: *Perraton 153* (Institute of Jamaica *Sheet No. 3760*), collected at Munro College, Santa Cruz Mountains, Parish of St. Elizabeth, elev. c. 2600 ft., on June 4, 1952. The type locality is characterized as being "scrub woodland," which means rather dry second-growth woodland on a rocky limestone substratum. The collector was Christopher Perraton, then a teacher of biology at Munro College.

The writer believes that *Eugenia perratoni* is probably most closely allied to *E. polypora*, described from Dolphin Head Mountain in the Parish of Hanover. It differs from the latter species in having much smaller leaves, terminal instead of axillary inflorescences which are sessile-umbelliform instead of having a rachis, and in having larger flowers with normally 5 instead of 4 sepals. *E. polypora* is described as being a large tree whereas the type plant of *E. perratoni* was a shrub, but this is not a reliable distinction owing to the fact that the former species was collected in virgin forest, while the latter came from second-growth scrub woodland.

It is suggested that here is a relationship somewhat analogous to that between *E. confusa* and *E. clarendonensis*, as described

in the first part of the present paper, and that ultimately when the fruits of *E. perratoni* are collected they may prove similarly of more taxonomic value than the structure of the inflorescence, although there is as yet no evidence that the latter character is unstable in this case.—INSTITUTE OF JAMAICA, KINGSTON.

ANALYSIS OF VEGETATIVE PROPAGATION IN QUERCUS PRINOIDES.—In matters of pure taxonomy, the practicing systematist often overlooks the seemingly insignificant, only to find that "major or minor" characters will not always in themselves serve as criteria for taxa delimitations. An excellent example of this is to be found in the arborescent *Quercus muehlenbergii* Engelm. and its shrubby counterpart, *Quercus prinoides* Willd.

While in the past the two have never been merged as a single entity, various workers have treated them in a variety of ways. One leading manual recognizes the two as distinct on the specific level, but yet another recognizes *Q. prinoides* var. *prinoides* as the shrub, and *Q. prinoides* var. *acuminata* as the tree. As the result of field observation, one soon realizes that the sole distinction between the two is the tree vs. shrub growth habit. Marginal teeth numbers and size of the blade present such a great overlap that they can never be relied on with any certainty, although these are the characters long used by systematists in separating the two. Numerous are the herbarium sheets labeled *Q. prinoides* with leaves of great size and a corresponding larger number of teeth; and the converse is to be found on the sheets labeled *Q. muehlenbergii* with unusually small leaves and "under seven" teeth.

This paper is presented not as a taxonomic treatment of the two taxa, as the author's treatment of these two species, as well as *Q. prinus* L. and *Q. brayi* Small is to appear shortly. The purpose of the paper is rather to show the importance of vegetative propagation as a good character in the distinction of the two taxa, and to supplement the earlier work of Muller (Madroño **11: 129–137, 1951**). It may be added that this writer does not recognize the two as distinct on the specific level, and the names *Q. prinoides* and *Q. muehlenbergii* are here used merely for convenience of reference, pending the publication of the taxonomic treatment.